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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/565,833 | 07/20/2006 | Takeshi Yamataka | 46884-5452 | 7936 |
| 55694 7590 01/23/2009 DRINKER BIDDLE & REATH (DC) 1500 K STREET, N.W. SUITE 1100 WASHINGTON, DC 20005-1209 | | | | |
| EXAMINER | | | | |
| NGUYEN, HIEN NGOC | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3768 | | | | |
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| 01/23/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/565,833

Applicant(s)

YAMANAKA ET AL.

Examiner

HIEN NGUYEN

Art Unit

3768

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-824)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 01/25/2006, 08/20/2008

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because of extra words "and 21" on line 7. Please delete "and 21". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunasawa et al. (JP Publication # 2001-337033) and in view of Miwa (US 5,676,142).

Regarding claim 1, Tsunasawa discloses:

- a photometric instrument comprising N pieces of measuring modules with each having light irradiating means for irradiating a scattering medium with light irradiated from a predetermined light irradiating position to measure internal information thereof non-invasively and at least one light detecting means for detecting light irradiated from the light irradiating means and propagating through the inside of the scattering medium at a predetermined light detecting position, where in N pieces of the light irradiating means corresponding, respectively, to the N pieces of measuring modules are adapted to irradiate the scattering

medium with the pulse light successively at different irradiation timings, and wherein the light detecting means is adapted to detect light at a detection timing synchronized with the irradiation timing of the corresponding light irradiating means; see Tsunasawa [0005-0008]. Tsunasawa does not explicitly disclose using pulse light. In the same field of endeavor, Miwa discloses using pulse light for measuring scattering property (see Miwa col. 3, lines 1-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tsunasawa's instrument to transmit pulse light and receive pulse light to measure scattering property in a human body. Using pulse light to measure scattering property in the scattering medium for medical purpose is well known. Pulse light is used in a non-invasive medical procedure.

Regarding claim 2, Tsunasawa discloses:

- an photometric instrument comprising timing instruction means for instructing the light irradiating means and the light detecting means included in each of the N pieces of measuring modules, respectively, on the irradiation timing and the detection timing; see Tsunasawa [0005-0008]. Tsunasawa discloses combinations of transmitting point and detecting point from plurality of transmitting points and detecting points. Since there are many combinations and plurality of transmitting and detecting points then there have to be timing instruction in order for each point in the apparatus to know when to transmit and receive light.

Regarding claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention that an photometric instrument disclosed by Tsunasawa in claim 1 is capable of having an interval of irradiation timing between two of the light irradiating means having successive irradiation timing to be 1usec or less. Light send out by each irradiating mean for a very short to measure the scattering property. The system is control by processing unit and by the operator. The operator can program the system to turn on each irradiating mean and for how long. The operator can also program the system to have successive irradiation timing to be 1 usec or less between tow of the light irradiating means. The operator can set this interval time to whatever value he/she feel as the best operation mode of the instrument.

Regarding claim 4, it would have been obvious to one of ordinary skill in the art at time of the invention that light sources are installed in the photometric instrument at light transmitting points (see Tsunasawa [0017-0023]). Also it would have been obvious to one of ordinary skill in the art at time of the invention that the operator can program the light source to emit light continuously or pulse. Mira discloses light source to emit light continuously or pulse for measuring light scattering property in a medium (see Mira col. 1, lines 20-26).

Regarding claim 5, it would have been obvious to one of ordinary skill in the art at time of the invention that light sources are installed in the photometric instrument at light transmitting points less than the number of light irradiating

means because Tsunasawa tried to reduce number of light sources and detectors (see [0009-0011]).

Regarding claim 6, Tsunasawa discloses:

- an photometric instrument wherein part of a plurality of the light detecting means is shared by a plurality of the measuring modules; see Tsunasawa [0017-0023] and drawing 1-9.

Regarding claim 7, it would have been obvious to one of ordinary skill in the art at the time of the invention that Tsunasawa's device performs essentially the same method as in applicant's claim 7 under normal operation. Claim 7 states: measuring methods using measuring modules are adapted to transmit and detect pulse light. It would have been obvious to one of ordinary skill in the art at the time of the invention that Tsunasawa's device is capable of transmitting and detecting pulse light. Using pulse light to measure scattering property in the scattering medium for medical purpose is well known. Pulse light is used in a non-invasive medical procedure. In the same field of endeavor, Miwa discloses using pulse light for measuring scattering property (see Miwa col. 3, lines 1-30).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIEN NGUYEN whose telephone number is (571) 270-7031. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. N./
Examiner, Art Unit 4158
01/13/09

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768